

UNITED STATES PATENT APPLICATION

FOR

UNFOLDING UTILITY BAG WITH MULTIPLE UPWARD-OPENING

COMPARTMENTS

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PRIORITY CLAIM

[0001] This patent application claims the benefit of the priority date of United States Provisional Patent Application Serial No. 60/457,871, filed on March 25, 2003 and entitled Unfolding Utility Bag with Multiple Upward-Opening Compartments (docket no. WIL1.PAU.01) pursuant to 35 USC §119. The entire contents of this provisional patent application are hereby expressly incorporated by reference.

BACKGROUND OF THE INVENTION

Field of the Invention

[0002] The present invention pertains generally to utility bags for stowage and transport of various items. More particularly, the present invention pertains to a utility bag and method of use with multiple folding and unfolding compartments. The present invention is particularly, but not exclusively useful as an infant care bag that has an opened position for packing and/or accessing items and a stacked position for transporting the items.

Description of the Prior Art

[0003] A number of organizer-type bags in various sizes are known. The prior art contains numerous bags typically made from fabric, vinyl, nylon and the like. The prior art bags may be of a self-supporting construction or they may have an internal frame that is covered with an external fabric. If a bag is poorly supported, access to compartments may be compromised and the items themselves may become damaged. Ideally, a utility bag contains enough rigidity of structure to be self-supporting, or a plastic framework or other lightweight design choice is employed.

[0004] Access and organization of items are also highly desired in the design of personal bags. When used as an infant care bag for example, numerous items and accessories must be organized or arranged for the most efficient stowage and for ease of transportation. Such items include diapers, bottles, tissues, lotion and other similar products. It is also desired that the various items fit snugly into their respective compartments for suitable transfer and to minimize wasted space. A utility bag should also be versatile enough to be useful in transporting any number of different items in a variety of situations. This type of utility bag would also be ideal for day outings, for instance trips to the beach, sporting events, and picnics. A bag should additionally provide some protection for fragile equipment such as cameras and camcorders. Another desired use involves transporting food and beverage items, in which case a bag may contain a suitable protective lining and have insulating properties.

[0005] Heretofore, the inventor has not known of utility bags where multiple compartments are exposed in a side-by-side, upwardly-opening direction when the bag is opened for use. This is a particularly desirable feature in certain uses. In the example of an infant care bag, it is problematic when all of the items stored in the bag are randomly arranged in a single deep compartment. Organization and accessibility are measurably achieved in a bag design that has multiple upwardly-opening compartments. A utility bag is desired that provides this feature and also allows for rearrangement of the compartments for ease of transport.

[0006] In light of the above, it is an object of the present invention to provide an unfolding utility bag with multiple upwardly-opening compartments. It is another object of the present invention to provide a utility bag that has a stacked position and an opened position, the stacked

position providing ease of transport, and the opened position providing efficient packing and unpacking. It is yet a further object of the present invention to provide a bag design and method that has upwardly-opening compartments and can be carried as a backpack. It is yet still a further object of the present invention to provide a utility bag design that is self-supporting, and offers padding and insulation. It is yet still another object of the present invention to provide a utility bag design having suitable compartments and pockets for carrying various items in an organized fashion. It is still another object of the present invention to provide a utility bag design and method that is relatively simple to use, and comparatively cost effective.

BRIEF SUMMARY OF THE INVENTION

[0007] The present invention specifically addresses and alleviates the above mentioned deficiencies associated with the prior art. More particularly, the present invention is a utility bag comprising: three or more compartments, each of the three or more compartments connected to another of the three or more compartments by an articulation segment, wherein the utility bag has a stacked position, the three or more compartments being on top of one another when the utility bag is in the stacked position, and wherein the utility bag has an opened position, the three or more compartments being side-by-side when the utility bag is in the opened position.

[0008] The present invention is further defined by each of the three or more compartments comprising a bottom portion wherein the bottom portions face in an upward direction when the utility bag is in the opened position, and wherein at least one of the bottom portions of at least one of

the three or more compartments faces in a downward direction when the utility bag is in the stacked position.

[0009] The three or more compartments of the present invention each further comprise two lengthwise sides, and two end sides. At least one of the lengthwise sides of at least one of the three or more compartments has at least one external pocket. Also, at least one of the three or more compartments is composed of insulating material. Further, at least one of the three or more compartments comprises padding material and/or a removable plastic liner. The removable plastic liner is optionally attachable by a hook-and-loop fastener. Further, at least one of the three or more compartments has an external mesh pocket.

[0010] The utility bag of the present invention further comprises an adjustable strap removably secured to the utility bag when the utility bag is in the stacked position. A zipper is optionally employed by the present invention to secure two of the three or more compartments when the utility bag is in the stacked position. The uppermost compartment is further characterized as having a lid portion, the lid portion further having a handle. The uppermost compartment further has an internal pocket made of mesh material, and an internal strap for securing stowed items.

[0011] More particularly, the three or more compartments are: a first compartment; a second compartment positioned over the first compartment when the utility bag is in the stacked position; and a third compartment positioned over the second compartment when the utility bag is in the stacked position. The first compartment comprises a first separator flap securing an interior of the first compartment and the first separator flap has a pocket for storing items. The second compartment further has a separator flap securing an interior of the second compartment.

[0012] The invention is also characterized as a method of using a utility bag comprising the steps of: providing the utility bag having three or more compartments, each of the three or more of compartments connected by an articulation segment; unfolding the utility bag about the articulation segments; and changing a relative position of each of the three or more compartments from a stacked position to a side-by-side position.

[0013] The method of the invention further comprises the steps of: folding the utility bag about the articulation segments; and changing the relative position of each of the three or more compartments from the side-by-side position to the stacked position. The method further comprises the steps of securing the three or more compartments in the stacked position with a zipper and carrying the utility bag using an adjustable, removable strap.

[0014] In another aspect, the invention is characterized as a utility bag comprising: a first compartment, the first compartment having a bottom portion and a first separator flap; and a second compartment having a bottom portion and a second separator flap, wherein the utility bag has an opened position and a stacked position, and wherein the second compartment is inverted and on top of the first compartment when the utility bag is in the stacked position, and wherein the second compartment is adjacent to the first compartment when the utility bag is in the opened position; a third compartment, the third compartment being an uppermost compartment when the utility bag is in the stacked position; and a second articulation segment connecting the second compartment to the first compartment.

[0015] The utility bag, in this aspect, is further defined by the first separator flap or the second separator flap having a pocket. The utility bag further comprises a first articulation segment

connecting the first compartment and the second compartment, wherein the second compartment or the first compartment is rotated about the first articulation segment when the utility bag is transformed from the stacked position to the opened position. The third compartment of the utility bag includes: an external pocket; an internal pocket; and an internal strap for securing articles. The third compartment further has a lid portion, the lid portion being secured by a zipper and having a handle.

[0016] The utility bag, in this aspect, is further characterized by each of the first compartment and second compartment comprising two lengthwise sides; and two end sides, an end side of the second compartment having an external pocket. At least one of the first and second compartments is composed of insulating material, and at least one of the first and second compartments comprises padding material. Additionally, at least one of the first and second compartments comprises a removable plastic liner. The utility bag optionally includes an adjustable strap removably secured to the utility bag when the utility bag is in the stacked position. The invention further comprises a zipper to secure the first and second compartments when the utility bag is in the stacked position.

[0017] These, as well as other advantages of the present invention, will be more apparent from the following description and drawings. It is understood that changes in the specific structure shown and described may be made within the scope of the claims, without departing from the spirit of the invention.

[0018] While the apparatus and method has or will be described for the sake of grammatical fluidity with functional explanations, it is to be expressly understood that the claims, unless expressly formulated under 35 USC 112, are not to be construed as necessarily limited in any way by the construction of “means” or “steps” limitations, but are to be accorded the full scope of the meaning and equivalents of the definition provided by the claims under the judicial doctrine of equivalents, and in the case where the claims are expressly formulated under 35 USC 112 are to be accorded full statutory equivalents under 35 USC 112. The invention can be better visualized by turning now to the following drawings wherein like elements are referenced by like numerals.

BRIEF DESCRIPTION OF THE DRAWINGS

[0019] The novel features of this invention, as well as the invention itself, both as to its structure and its operation, will be best understood from the accompanying drawings, taken in conjunction with the accompanying description, in which similar reference characters refer to similar parts, and in which:

[0020] FIG. 1 is a perspective view of a first embodiment of a utility bag according to the present invention;

[0021] FIG. 2 is a side elevational view of the utility bag of FIG.1 in the upright folded or stacked position;

[0022] FIG. 3 is a side elevational view of the utility bag wherein the compartments are being articulated from the stacked position to the unfolded position;

- [0023]** FIG. 4 is a view showing the utility bag of FIG. 3 further articulated;
- [0024]** FIG. 5 is a side elevational view of the utility bag in the unfolded position corresponding to FIG. 1;
- [0025]** FIG. 6 is a side elevational view of the preferred utility bag as partially viewed from below;
- [0026]** FIG. 7 is a top elevational view of the preferred utility bag;
- [0027]** FIG. 8 is a perspective view of the first preferred utility bag as the bag's compartments are articulated from the stacked/folded position toward the opened/unfolded position;
- [0028]** FIG. 9 is an additional perspective view of the utility bag on its side with the bag's compartments in a partially unfolded position;
- [0029]** FIG. 10 is a top view of the utility bag with its compartments in the fully unfolded position with the compartments thereof exposed side-by-side in an upwardly-opened position;
- [0030]** FIG. 11 is a perspective view of the first preferred utility bag showing the compartments with typical baby-care items;
- [0031]** FIG. 12 is a downward-looking perspective view of the first preferred utility bag with the baby items of FIG. 11;
- [0032]** FIG. 13 is a perspective view of the utility bag illustrating a separator flap dividing two compartments when the bag is being transformed to the stacked position; and

[0033] FIG. 14 is a perspective view of the utility bag illustrating separator flaps that divide compartments, the flaps positioned over their respective compartments.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0034] Referring initially to FIGs. 1 through 3, a utility bag 10 of a preferred embodiment of the present invention is illustrated. This particular bag 10 is divided into first, second and third compartments 20, 30, 40. Compartmentalizing bag 10 in this way facilitates organizing items and improves access to those items. FIG. 1 illustrates bag 10 in an opened or unfolded position. In contrast, FIG. 2 displays a side view of utility bag 10 in a stacked or folded position. Importantly, compartments 20, 30, 40 are connected by first and second articulation segments 22, and 24 that are located on opposite sides of the utility bag when viewed from an end, as shown in FIGs. 2 and 3. The articulation segments 22, 24 allow utility bag 10 to be folded and transformed from the stacked position (FIG. 2) to the opened position (FIG. 1). As shown in FIG. 3, compartments 20, 30, 40 are rotated about the articulation segments 22, 24 when bag 10 is being folded and unfolded. It is also important to note that the first compartment 20 and the third compartment remain upright in both the stacked and opened positions. Conversely, compartment 30 is upright when the utility bag 10 is opened in FIG. 1, and is inverted when the utility bag is folded to the stacked position in FIG. 2. Stated differently, first and second compartments 20, 30 have bottom portions 26, 28, respectively, that face in an upward direction when the bag is in the opened position. Further, when bag 10 is in the stacked position, bottom portion 26 remains facing upward, however, bottom portion 28 faces in

a downward direction. The upward direction is further defined as the positive y-axis direction in FIG. 1 and the downward inverted direction is the negative y-axis direction.

[0035] Also shown in FIG. 1, a compartment 20 may contain a plastic liner 12 according to a preferred embodiment. Plastic liner 12 may benefit any number of uses to include storage of used diapers or packing beverages with ice. The plastic liner 12 may also be removed for cleaning and other purposes. Hook-and-loop fasteners 14 are particularly suited for securing and removing plastic liner 12. Compartments 20, 30, 40 also have two end-sides 27 and two lengthwise sides 29 as typical for any six sided rectangular structure. End side 27 may contain an external pocket 16, or zippered pouch 17 as desired. Similarly, lengthwise side 29 may include one or more external pockets 18.

[0036] The design concept illustrated herein has several advantages apparent from the first preferred embodiment shown in FIG. 1. For Example, easy access to the bag 10 will expedite the inspection process at airport security checkpoints because all of the items are visible at a glance. Conversely, the constrained access provided by a single, deep-pocket bag would not yield this efficiency. Next, the compartmentalized design in combination with the bag's 10 other features will evenly distribute items further providing ergonomic benefits. Additionally, the design concept is applicable to bags 10 of all sizes for a variety of applications.

[0037] FIG. 4 and FIG. 5 again show utility bag 10 being unfolded about articulation segments 22, 24. As shown in FIG. 6, articulation segments 22, 24 are in the form of a strip of material covering a seam in a preferred embodiment. The articulation segments 22, 24 provide a jointed formation for the utility bag 10 to be unfolded. While the utility bag 10 is in the stacked

position, zippers 32, 34 secure compartments 20, 30, 40 in place as shown in FIG. 6. Other suitable means are contemplated by the present invention to secure compartments 20, 30, and 40 while in the stacked position.

[0038] Referring to FIG. 7 utility bag 10 of the preferred embodiment is illustrated now showing lid portion 42 of third compartment 40. In this embodiment, third compartment 40 is also an uppermost compartment 40. Lid portion 42 also comprises a handle 44 that is useful for carrying utility bag 10. FIG. 8 further illustrates a perspective view of utility bag 10 as the bag's compartments 20, 30, 40 are articulated from the stacked/folded position toward the opened/unfolded position. FIG. 8 additionally provides an alternate view of first articulation segment 22. Also shown are bottom portions 26, 28 of first and second compartments 20, 30. Bottom portion 28 is becomes inverted when utility bag 10 is transformed from the opened position to the stacked position. Adjustable and removable strap 52 is additionally illustrated in FIG. 8. The strap 52 is particularly useful for transporting the bag 10 as a shoulder bag or a backpack.

[0039] FIG. 9 is an additional perspective view of the utility bag 10 on its side with the bag's compartments 20, 30, 40 in a partially unfolded position. Second articulation segment 24 is again illustrated as a strip of material connecting edges of compartments 30 and 40. Plastic liner 12 having hook and loop attachments 14 are again illustrated. It should be noted that any of compartments 20, 30, 40 may be assembled with padding material inserted into the fabric chosen for use in construction of utility bag 10. Any padding material would benefit the utility bag's 10 self-supporting construction and serve to cushion items stowed within the bag 10 and minimize possible damage to the items. Also, material with insulating properties may used with the fabric chosen for

construction of utility bag 10. Compartments 20, 30, 40 having insulating properties may be particularly useful for storage of food and beverage items.

[0040] FIG. 10 illustrates a top view of the utility bag 10 with its compartments 20, 30, 40 in the fully unfolded position and exposed side-by-side in an upwardly-opening position. First and second compartments 20, 30 each have first and second separator flaps 21, 31. The separator flaps 21, 31 serve to cover the items that are stowed in their respective compartments 20, 30, thus preventing items from shifting between compartments 20, 30 while being transported. Separator flaps 21, 31 may be secured using a hook-and-loop attachment (not shown) or other means.

[0041] FIG. 11 illustrates a perspective view of the first preferred utility bag 10 showing the compartments 20, 30, 40 with typical baby-care items. It becomes apparent that the items are readily assessable and organized, according to the present invention by providing upwardly-opened compartments 20, 30, 40. FIG. 12 provides a similar illustration as in FIG. 11. One or more internal straps 62 are utilized by the present invention for stowage of items. FIG. 13 shows yet another illustration of utility bag 10 of the preferred embodiment. First separator flap 21 has a mesh pocket 64 configured on an underside of flap 21 for additional stowing of items. FIG. 14 provides yet still another perspective view of the utility bag 10 illustrating separator flaps 21, 31 that divide compartments 20, 30. The separator flaps 21, 31 in this illustration are positioned over their respective compartments 20, 30.

[0042] Many alterations and modifications may be made by those having ordinary skill in the art without departing from the spirit and scope of the invention. Therefore, it must be understood that the illustrated embodiments have been set forth only for the purposes of example and that it

should not be taken as limiting the invention as defined by the following claims. For example, notwithstanding the fact that the elements of a claim are set forth below in a certain combination, it must be expressly understood that the invention includes other combinations of fewer, more or different elements, which are disclosed in above even when not initially claimed in such combinations.

[0043] While the particular Unfolding Utility Bag with Multiple Upward-Opening Compartments as herein shown and disclosed in detail is fully capable of obtaining the objects and providing the advantages herein before stated, it is to be understood that it is merely illustrative of the presently preferred embodiments of the invention and that no limitations are intended to the details of construction or design herein shown other than as described in the appended claims. .

[0044] Insubstantial changes from the claimed subject matter as viewed by a person with ordinary skill in the art, now known or later devised, are expressly contemplated as being equivalently within the scope of the claims. Therefore, obvious substitutions now or later known to one with ordinary skill in the art are defined to be within the scope of the defined elements.